

Amendment

U.S. Patent Application No. 09/821,456

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) A method for producing microfilaments, comprising:
extruding a plurality of multicomponent fibers having at least one polymer component comprising an elastomeric polymer and at least one polymer component comprising a non-elastomeric polymer, wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal treatment;
drawing said multicomponent fibers to plastically deform said non-elastomeric component and to attenuate said elastomeric component such that said elastomeric component is capable of elastically contracting upon release of adhesion to the non-elastomeric component; and
thermally treating said drawn multicomponent fibers under conditions of low or substantially no tension to separate said multicomponent fibers to form a fiber bundle comprising a plurality of elastomeric microfilaments and a plurality of non-elastomeric microfilaments which are more bulked than said elastomeric microfilaments.
2. (Original) The method of Claim 1, wherein said thermally treating step comprises thermally treating said fibers at a temperature of at least about 351C.
3. (Original) The method of Claim 2, wherein said thermally treating step comprises contacting said fibers with a heated gaseous medium.

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4. (Original) The method of Claim 3, wherein said heated gaseous medium comprises heated air substantially free of water.
5. (Original) The method of Claim 1, wherein said method further comprises texturizing said fibers by directing said fibers through a texturing jet.
6. (Original) The method of Claim 5, wherein said texturizing step comprises contacting said fibers with a heated jet air stream in said texturizing jet, and wherein said thermally treating step and said texturizing step occur simultaneously.
7. (Original) The method of Claim 5, wherein said thermally treating step occurs before said texturizing step.
8. (Original) The method of Claim 1, wherein said elastomeric microfilaments are substantially non-bulked.
9. (Original) The method of Claim 1, wherein said non-elastomeric microfilaments substantially surround said elastomeric microfilaments and wherein each of said non-elastomeric microfilaments has a random series of substantially non-linear configurations.
10. (Original) The method of Claim 1, wherein said elastomeric polymer is selected from the group consisting of polyurethane elastomers, ethylene-polybutylene copolymers, poly(ethylene-butylene)polystyrene block copolymers, polyadipate esters, polyester elastomeric polymers, polyamide elastomeric polymers, polyetherester elastomeric polymers, ABA triblock or radial block copolymers, and mixtures thereof.
11. (Original) The method of Claim 10, wherein said elastomeric polymer is polyurethane.

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12. (Original) The method of Claim 1, wherein said non-elastomeric polymer is selected from the group consisting of polyolefins, polyesters, polyamides, and copolymers and mixtures thereof.
13. (Original) The method of Claim 12, wherein said non-elastomeric polymer is a polyolefin.
14. (Original) The method of Claim 13, wherein said polyolefin is polypropylene.
15. (Original) The method of Claim 1, wherein said thermal treating step comprises applying microwave energy to said multicomponent fibers.
16. (Original) The method of Claim 1, further comprising:
applying and releasing tension on said drawn multicomponent fibers after the thermally treating step to further separate said multicomponent fibers.
17. (Original) The method of Claim 16, wherein tension on said drawn multicomponent fibers is applied and released repeatedly.
18. (Original) The method of Claim 1, further comprising twisting the drawn multicomponent fibers into a yarn.
19. (Original) A method for producing microfilaments, comprising:
extruding a plurality of multicomponent fibers comprising at least one elastomeric polyurethane component and at least one non-elastomeric polypropylene component;
drawing said multicomponent fibers to plastically deform said non-elastomeric polypropylene component and to attenuate said elastomeric polyurethane component such that

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said elastomeric polyurethane is capable of elastically contracting upon release of adhesion to the non-elastomeric component; and

contacting said drawn multicomponent fibers with heated air under conditions of low or substantially no tension to separate said multicomponent fibers to form a fiber bundle comprising a plurality of elastomeric polyurethane microfilaments and non-elastomeric polypropylene microfilaments, wherein said polypropylene microfilaments are more bulked than said polyurethane microfilaments, and wherein said polypropylene microfilaments substantially surround said polyurethane microfilaments.

20. (Original) A method for producing microfilaments, comprising:

extruding a plurality of multicomponent fibers having at least one polymer component comprising an elastomeric polymer and at least one polymer component comprising a non-elastomeric polymer, wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal treatment;

drawing said multicomponent fibers to plastically deform said non-elastomeric component and to attenuate said elastomeric component such that said elastomeric component is capable of elastically contracting upon release of adhesion to the non-elastomeric component; and

contacting said multicomponent fibers with a heated substantially water free medium under conditions of low or substantially no tension to separate said multicomponent fibers to form a fiber bundle comprising a plurality of elastomeric microfilaments and a plurality of non-elastomeric microfilaments.

Claims 21-104 (Canceled).